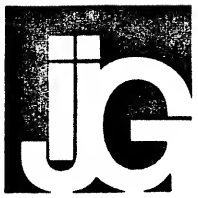

Lewis Rosenfelder's

BFBDEM

BASIC FASTER AND BETTER DEMONSTRATION

DISK SOFTWARE FOR THE TRS-80.

Version 1.0 01/01/82

The BFBDEM diskette is recorded in TRS80 Model I format (35 tracks, single density).

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INTRODUCTION

The "BFBDEM" Diskette contains all of the major demonstration programs that are in the book, "BASIC Faster and Better & Other Mysteries", by Lewis Rosenfelder.

These programs demonstrate and test the programming techniques, subroutines and tricks described in the book. You will find that they will give you a good feel for the speed and power provided by the techniques. They will also help you test modifications that you may want to make. Many of the programs can even be expanded into complete applications by adding or modifying a few lines. Or, you can delete lines and merge the logic that you need into your application program.

Testing programs and routines is one of the most time consuming tasks of programming. You've aleady saved yourself hours of work, because all but the very short demonstration programs are included — no typing, proof reading or debugging is necessary!

A companion diskette, "BFBLIB" contains the programs and routines from the book, organized as a convenient "merge" library. With these programs and files you will have the major functions, subroutines, USR routines, and utility programs that will make your BASIC programs "faster and better".

The book "BASIC Faster and Better & Other Mysteries" is your main documentation and instruction manual for the BFBDEM diskette. Before attempting to use any programs or routines, be sure to carefully read the sections of the book that pertain to the demonstration program you are using.

There is a brief description of each demonstration program's function below and a reference to the page in "BASIC Faster and Better & Other Mysteries" where you will find detailed information about each program.

WHAT TO DO FIRST

1. If you have a TRS-80 Model I, your first step is to make a backup copy of the BFBDEM diskette, using the procedures explained in the "TRSDOS & Disk BASIC Reference Manual", page 5-2.

NOTE: If you are using another disk operating system you will have to refer to that system's manual on the backup procedure.

2. If you have a TRS-80 Model III, you will need to use the CONVERT utility (see your Disk System Owner's manual, page 68), to transfer the diskette contents to double density Model III diskettes. Then you can make your backup copy. All the BFBDEM programs can be stored on a single Model III system diskette.

NOTE: If you are using another disk operating system you will have to refer to that system's manual on the Model I - Model III conversion procedure.

After you've made a backup copy, use it as your working copy - DO NOT use your original for day-to-day programming. You may want to make modifications and additions, so, be sure to keep your original unaltered copy for protection. As an added precaution, be sure that your original copy is "write protected" (Model I users see TRSDOS & Disk BASIC Reference Manual page 2-6; Model III users see Disk System Owner's manual page 5). Do not "write protect" your WORKING DISK.

THE BFBDEM DISKETTE

The BFBDEM diskette contains the following 32 demonstretion programs and SETUPDEM/BAS, e program that is not included in "BASIC Faster and Better & Other Mysteries".

SEARCH1/DEM	VHANDLER/DEM	SORT2/DEM
BITMAPFN/DEM	VARPASS/DEM	OVERLAYT/DEM
JOURNEY/DEM	OVERLAY1/BOV	VDRIVE2/BAS
SORT3/DEM	OVERLAY2/BOV	FLASH/DEM
ELEMDUP/DEM	COMUNCOM/DEM	SCROLLUP/DEM
MOVEX/DEM	HZIO/DEM	DOSCHECK/BAS
UPDOWN/DEM	OVERLAY2/TOV	SUMSNG/DEM
SETUPDEM/BAS	OVERLAYB/DEM	IDARRAY/DEM
VETOM/DEM	MASTER/BOV	SUMDBL/DEM
VDRIVE/BAS	FREEFORM/DEM	OVERLAY1/TOV
VARPASS/RCV	BITSRCH/DEM	KWKARRAY/DEM

"SETUPDEM/BAS" is e special program that may be used to customize tha programs on tha BFBDEM diskette that require changas to be compatible with the disk operating system you ere using.

Tha modificetions mede by "SETUPDEM/BAS" are not necessary if you are using TRSDOS 2.3, with threa files, but no herm will be done by running it. If you purchase a diffarant disk operating system, or if a new version of your current DOS is released, you may re-run "SETUPDEM/BAS" to elter the effacted BFBDEM files.

USING "SETUPDEM/BAS"

To run "SETUPDEM/BAS", loed BASIC, specifying at least 1 file.

Then type: RUN "SETUPDEM/BAS"

The program will display the program's "billboerd" message until you press eny key (except BREAK, of course). Aftar you hava pressed a key, the program will eutomatically find the correct addresses within tha system you ere using end then made the eppropriate modificetions to tha BFBDEM demonstration programs.

The "MOVEX" end "COMUNCOM" routines as used in the programs "MOVEX/DEM", "JOURNEY/DEM", and "COMUNCOM/DEM" ara modifiad so thet the USR routine eddress pointers will be correct. Refer to tha sections in the book that explein "MOVEX", "COMUNCOM", and the "Multiple Argument Handler" for en explenetion of these modifications. "MOVEX" is modified so thet it will operete es USR0. "COMUNCOM" is modified so thet it will operate as USR7.

"SETUPDEM/BAS" also modifies "OVERLAY1/TOV" and "OVERLAY2/TOV". These ara overlay programs thet era loaded end run by tha top-loeded overlay demonstration program, "OVERLAYT/DEM". Tha modification mada is to changa the POKE commends in line 30001 so thet the beginning of text address, and number of filas will ba correct for the disk operating system that you are using. (It is possible that if you are using e disk opereting system, or number of files satting, thet creetes e particulerly high beginning of text eddress, you may need to make further modifications in order to run the "OVERLAYT/DEM" and "OVERLAYB/DEM" programs. See pages 67 and 71 for more details).

"SETUPDEM/BAS" expects to find the required programs "on-line" and the data to be modified at specific byte positions within those programs. It verifies that you have not added, deleted, or edited lines preceding the points to be modified by checking a few bytes immediately preceding and following the data to be modified. Because of this, "MOVEX/DEM", "JOURNEY/DEM", "COMUNCOM/DEM", "OVERLAY1/TOV", and "OVERLAY2/TOV" should be exact copies of those found on your original BFBDEM diskette, or the program will abort. You may modify your BFBDEM disk as many times as you wish for as may disk operating systems as you have.

NOTE: For proper modification of the "OVERLAYT/DEM" programs, you must specify the number of files that you will be using when you test them, and if you will be using the video driver program "VDRIVE2/BAS", you should run it before "SETUPDEM/BAS".

THE DEMONSTRATION PROGRAMS

These demonstration programs will help you to understand the various techniques and tricks that are described in "BASIC Faster and Better & Other Mysteries". You can analyze the code, "see" how each function, subroutine or technique works and modify the programs to test your own ideas and techniques. By using the TRON and TROFF functions of your TRS-80, you can "trace" the logic of each demonstration program. You can even use portions of the "demonstration" in your own program!

Following are brief descriptions of each program and the page number reference to the appropriate chapter in "BASIC Faster and Better & Other Mysteries" where you will find the complete documentation for each program.

BITSRCH/DEM - demonstrates the BITSRCH USR subroutine for searching bit-map strings.

* For more details see page 123

BITMAPFN/DEM - demonstrates the bit-map string function calls.

* For more details see page 120

COMUNCOM/DEM - demonstrates the use of the COMUNCOM USR routine and the FNKM$ function to compress and uncompress strings. You will need to use SETUPDEM/BAS if your operating system is not TRSDOS 2.3.

* For more details see page 95

ELEMDUP/DEM - is the array element duplication demonstration.

* For more details see page 125

FLASH/DEM - demonstrates the screen save and flashback subroutine.

* For more details see page 194

FREEFORM/DEM - is the free-form video display program. It demonstrates repeating key capabilities, a flashing cursor, insertions and deletions.

* For more details see page 176

HZIO/DEM - demonstrates the horizontal input/output subroutine for data entry and display.

* For more details see page 196

IDARRAY/DEM - is a demonstration of array element insertions and deletions with the IDARRAY USR subroutine.

* For more details see page 127

JOURNEY/DEM - scrolls the video display through 64K of memory, showing the current address at the bottom of the screen.

* For more details see page 55

KWKARRAY/DEM - uses the video display to demonstrate the commands of the KWKARRAY USR routine.

* For more details see page 145

MOVEX/DEM - demonstrates the MOVEX USR subroutine. You will need to use SETUPDEM/BAS if you are using a disk operating system other than TRSDOS 2.3.

* For more details see page 55

OVERLAYB/DEM - is the bottom-loaded overlay demonstration.

MASTER/BOV - is part of the bottom-loaded overlay demonstration. You should not run it directly. It is loaded by OVERLAYB/DEM.

OVERLAY1/BOV - is part of the bottom-loaded overlay demonstration. You should not run it directly. It is loaded by OVERLAYB/DEM.

OVERLAY2/BOV - is part of the bottom-loaded overlay demonstration. You should not run it directly. It is loaded by OVERLAYB/DEM.

* For more details see page 71

OVERLAYT/DEM - is the top-loaded overlay demonstration.

OVERLAY1/TOV - is part of the top-loaded overlay demonstration. You should not run it directly. It is loaded by OVERLAYT/DEM.

OVERLAY2/TOV - is part of the top-loaded overlay demonstration. You should not run it directly. It is loaded by OVERLAYT/DEM.

* For more details see page 67

SCROLLUP/DEM - demonstrates split-screen scrolling using random data.

* For more details see page 200

SEARCH1/DEM - demonstrates the SEARCH1 USR subroutine for high-speed searches of string arrays.

* For more details see page 131

SORT2/DEM - uses the video display to demonstrate the high-speed memory sort performed by the SORT2 USR subroutine.

* For more details see page 152

SORT3/DEM - uses the video display to demonstrate the method of sorting by insertion used by the SORT3 USR subroutine.

* For more details see page 155

SUMDBL/DEM - is a demonstration of the SUMDBL USR subroutine, which sums double precision arrays.

* For more details see page 82

SUMSNG/DEM - demonstrates the SUMSNG USR subroutine, which sums single precision arrays.

* For more details see page 82

VARPASS/DEM - shows how you can pass variables from one program to another. It creates some demonstration data and passes it to VARPASS/RCV.

VARPASS/RCV is the receiving program in the variable passing demonstration. It is loaded and run by VARPASS/DEM. You should not run it directly.

* For more details see page 58

VETOM/DEM - demonstrates the scrolled video entry handler. If you wish to test the disk save and load capabilities you should specify at least 1 file upon loading BASIC and you should have a formatted disk available with several grans of free space. Be aware that it automatically changes the memory size setting. After running the program you can restore the original memory size by re-booting or by poking the proper addresses.

* For more details see page 211

VHANDLER/DEM - is a demonstration of the unscrolled video handler. It also demonstrates all the inkey subroutines. You will need a disk that isn't write protected in drive zero.

The program opens, but does not actually use, a temporary file, "TEST", on drive zero. You will need to specify at least 1 file upon loading BASIC. Also, if you've got a Model I TRS-80 with an upper-lower case kit installed, be sure that you've loaded a video driver such as VDRIVE/BAS, VDRIVE2/BAS or Radio Shack's ULCDVR.

* For more details see page 229

UPDOWN/DEM - demonstrates the up and down scrolling subroutines to scroll data from an array onto the video display.

* For more details see page 202

For your convenience, "VDRIVE/BAS", "VDRIVE2/BAS", and "DOSCHECK/BAS" are included on the BFBDEM diskette. Their purpose and operation are discussed in "BASIC Faster and Better". If you have had your Model I modified for upper and lower case operation, "VDRIVE/BAS", "VDRIVE2/BAS", or Radio Shack's ULCDVR will be necessary in those programs containing line 40070, the video display string pointer subroutine.

NOTE: DOSPLUS 3.3D and some other operating systems have a comparatively high beginning of text address. To run the VARPASS/DEM and OVERLAYT/DEM programs you should specify no more than 1 file upon entering BASIC and when running SETUPDEM/BAS.

SETUPDEM/BAS does not modify OVERLAYB/DEM. To run it you will need to specify 0 files upon start-up and manually make the modifications to OVERLAYB/DEM, MASTER/BOV, OVERLAY1/BOV and OVERLAY2/BOV as specified in Model 2 note 31, page 250. This applies to any disk operating system where the beginning of text address is above 27000 decimal on Models I and III.

This documentation was prepared on a TRS-80 model I computer with 48K, 4 disk drives, NEC printer, NEWDOS/80 2.0 operating system and The ELECTRIC PENCIL 2.0z word processing system.

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